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ABSTRACT

The Thinking Skills Program of the Saginaw Public Schools was evaluated in a process evaluation. The School District of the City of Saginaw (Michigan) operates a supplemental educational delivery system in reading and mathematics that consists of Chapter-1 funded elementary and secondary compensatory education (CE). Elementary CE is both a push-in (operating in regular classrooms) and a pull-out program that serves 1,819 students in grades 1 through 5. The secondary CE is a self-contained classroom program that involves about 621 students in grades 6 through 8. The Thinking Skills Program (TSP) is part of the secondary CE. Questionnaires completed by 15 middle school teachers and 495 students, as well as interviews with 8 principals and classroom observations of 18 teachers provided evaluation data. Nearly 25 percent of teachers indicated that they had difficulty implementing TSP methods, and participating students still showed low achievement, particularly in reading. Recommendations for program improvement centered on these findings, and also supported the purchase of additional computers and supplies, better teacher training, better program management, and better reporting of testing results. Two text tables and eight in the appendixes present study findings. The eight appendixes contain checklists, questionnaire results, and teacher ratings. (SLD)

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ED 372 137

EVALUATION REPORT

COMPENSATORY EDUCATION (CE) PROCESS EVALUATION:

ELEMENTARY AND SECONDARY PROGRAMS

1993-94

DEPARTMENT OF EVALUATION SERVICES

- PROVIDING ASSESSMENT, PROGRAM EVALUATION AND RESEARCH SERVICES -

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SCHOOL DISTRICT OF THE CITY OF SAGINAW

Saginaw, Michigan

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COMPENSATORY EDUCATION (CE) PROCESS EVALUATION:

ELEMENTARY AND SECONDARY PROGRAMS

1993-94

An Approved Report of the

DEPARTMENT OF EVALUATION, TESTING AND RESEARCH

Richard N. Claus

Richard N. Claus, Ph.D.
Manager, Program Evaluation

Barry E. Pulmer

Barry E. Pulmer, Director
Evaluation, Testing & Research

Dr. Foster B. Gibbs, Superintendent
School District of the City of Saginaw

April, 1994

TABLE OF CONTENTS

	Page
PROGRAM DESCRIPTION	1
PROCESS EVALUATION PROCEDURES	6
PRESENTATION OF PROCESS DATA	7
Areas of Agreement	8
Areas of Disagreement	9
Areas From a Single Perspective	12
RECOMMENDATIONS	13
APPENDICES	14
Appendix A: Checklist For Middle School Principals and 1993-94 Count of Program Participants for Compensatory Education, Chapter 1, and Article 3 Programs	15
Appendix B: Memo to TSP Teachers, Teacher and Student Questionnaires, Principal/Assistant Principal Interview Guide, and Classroom Observation Instrument	23
Appendix C: Tabulated Results of Teacher Questionnaire	40
Appendix D: Tabulated Results of Student Questionnaire	54
Appendix E: Tabulated Results of Principal/Assistant Principal Interview Guide	59
Appendix F: Master Question Matrix for Thinking Skills Program (TSP) Teacher, Principal/Assistant Principal, and Student Questionnaires Plus TSP Teacher Observation Instrument	66
Appendix G: Mean Rating of Five-Point Scale of Teachers, Principals/ Assistant Principals, and Students	67
Appendix H: Tabulated Results of Classroom Observation Instrument	68
BIOLIOGRAPHY	71

LIST OF TABLES

Table		Page
1	Demographic Characteristics of the Compensatory Education (CE) Programs	2
2	Mean Normal Equivalent Gain/Loss Based on CAT (Spring to Spring) Testing in Basic and Advanced Skill Areas	4
A-1	Count of Program Participants for the Compensatory Education Program, 1993-94 for Elementary Schools	17
A-2	Count of Program Participants for the Compensatory Education Program, 1993-94 for Middle Schools	18
A-3	Count of Program Participants for the Chapter 1 Program, 1993-94 for Elementary Schools	19
A-4	Count of Program Participants for the Chapter 1 Program, 1993-94 for Middle Schools	20
A-5	Count of Program Participants for the Article 3 Program, 1993-94 for Elementary Schools	21
A-6	Count of Program Participants for the Article 3 Program, 1993-94 for Middle Schools	22
F-1	Master Question Matrix for Thinking Skills Program (TSP) Teacher, Principal/Assistant Principal, and Student Questionnaires Plus TSP Teacher Observation Instrument	66
G-1	Mean Rating on Five-Point Scale of Teachers, Principals/ Assistant Principals, and Students	67

Program Description

The School District of the City of Saginaw operates a supplemental educational delivery system in reading and mathematics consisting of two programs — elementary and secondary Compensatory Education (CE). The elementary CE is both a push-in program (that operates in the regular classroom) and a pull-out program (periodically taking students out of regular classrooms) that serves 1,819 students in grades one through five. The secondary CE is a self-contained classroom program which involved approximately 621 students in grades six through eight. The CE programs are funded by both the Federal Education Consolidation and Improvement Act (ECIA) Chapter 1 and Article 3 of the State School Aid Act.

Summarized in the chart below are demographic characteristics that describe both the elementary and secondary levels of CE in greater detail.

Table 1

Demographic Characteristics of the Compensatory Education (CE) Programs

	DEMOGRAPHIC CHARACTERISTICS						
Program	Grade Levels Served	Approximate Number of Students Served*	Number of Full-Time Equivalent Teachers	Number of Full-Time Classroom Aides	Number of School Sites	Program Setting	Instructional Services
Academic Achievement, Elementary	1-5	1,819	38.0	23.0	23	Push-in and Pull-out	- Reading - Mathematics
Academic Achievement, Secondary	6-8	621	7.2	4.0	4	Self-Contained Classroom	- Thinking Skills[a]

Note. N = 2,440 students.

[a]The Thinking Skills Program (TSP) operated in grades 6-8 as the reading and/or mathematics compensatory education program.

As can be seen from the Table 1 above, the primary purpose of the programs is to improve the reading and mathematics achievement* of a designated number of educationally disadvantaged children. The children in the program are screened for entry with the California Achievement Tests--Fifth Edition (CAT-5). This year approximately 2,440 pupils are participating in the compensatory education programs (see Appendix A for counts of pupils by building and grade).

The broad goals of these programs were to: 1) provide intensive academic instruction to the educationally disadvantaged, 2) involve parents in the program, 3) supply students with incentives for academic achievement, 4) operate staff inservice programs, 5) measure academic growth, and 6) prepare students to effectively meet the academic competition of the general classroom. These goals are the focus of the Compensatory Education Department's activities throughout the 1993-94 school year.

The focus of this process evaluation is upon the Thinking Skills Programs (TSP) in grades 6-8. Table 2 below presents the gains and losses of the program over the past three years.

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*The Thinking Skills Program (TSP) is designed to increase thinking skills of sixth through eighth graders in such a way that basic skills (reading and mathematics) and social confidence also increases substantially.

Table 2

Mean Normal Equivalent Gain/Loss Based on CAT (Spring to Spring) Testing[a] in Basic and Advanced Skill Areas

Skill Area / Subject Area	Grade	NORMAL CURVE EQUIVALENTS											
		1990-91				1991-92				1992-93			
		Number Tested	Pre Mean	Post Mean	Gain/ Loss	Number Tested	Pre Mean	Post Mean	Gain/ Loss	Number Tested	Pre Mean	Post Mean	Gain/ Loss
Basic / Reading	7	159	31.1	26.6	- 4.5	171	30.2	26.2	- 4.0	183	32.0	31.4	- 0.4
	8	196	29.3	30.7	1.4	182	27.1	27.1	0.0	129	25.4	26.4	1.0
	9	170	27.3	31.8	4.5	148	29.6	32.2	2.6	150	31.4	26.1	- 5.3
Total Weighted Gain/Loss		525			**0.6**	501			**- 0.6**	462			**- 1.6**
Advanced / Reading	7	159	37.0	30.1	- 6.9	171	34.7	30.5	- 4.2	183	35.2	36.1	0.9
	8	196	33.9	33.0	- 0.9	182	30.9	31.1	0.2	129	30.4	29.1	- 1.3
	9	170	32.7	33.4	0.7	148	33.9	31.8	- 2.1	150	35.1	25.5	- 9.6
Total Weighted Gain/Loss		525			**- 2.2**	501			**- 2.0**	462			**- 3.1**
Basic / Mathematics	7	69	31.3	28.9	- 2.4	63	30.3	27.2	- 3.1	64	28.0	30.5	2.5
	8	72	26.6	31.2	4.6	99	27.3	31.4	4.1	55	24.5	24.2	- 0.3
	9	118	25.9	34.0	8.1	76	29.1	32.5	3.4	104	29.7	31.1	1.4
Total Weighted Gain/Loss		259			**4.3**	181			**2.6**	223			**1.3**
Advanced / Mathematics	7	69	36.1	30.7	- 5.4	63	33.3	29.9	- 3.4	64	30.2	29.5	- 0.7
	8	72	33.0	33.2	0.2	99	30.2	33.5	3.3	55	25.5	26.7	1.2
	9	118	30.2	36.5	6.3	76	32.2	35.3	3.1	104	32.7	30.9	- 1.8
Total Weighted Gain/Loss		259			**1.5**	181			**1.9**	223			**- 0.7**

Note. N for reading = 1,488. N for mathematics = 663.

[a]The 1990-91 and 1991-92 data are CAT E/F scores. The 1992-93 data are CAT-5 scores.

A review of the gains/losses for the TSP program in Table 2, shows that for the last three years in basic and advanced reading a total of one of six (16.7%) composite grade comparisons had a positive gain. The mathematics area shows that for the last three years, a total of five of six (83.3%) composite grade comparisons showed a positive gain. Thus the TSP program has been much more successful in the area of mathematics than reading.

If the reading and mathematics three-year gains are weighted across all 12 comparisons, a -0.4 loss is evident.

A review of literature was undertaken to determine if these findings were consistent with other TSP sites across the United States. A review of the articles showed more positive results in the area of mathematics. However, the results reported were always positive and larger than the results observed for our TSP program.

Process Evaluation Procedures

A process evaluation involves monitoring a program throughout the year to determine if the program is being implemented as planned. This makes it possible to identify strengths and weaknesses that influence a program's outcome.

The process evaluation this year focused on secondary CE program in grades 6-8. The program is in its fourth year of implementation and termed locally the Thinking Skills Program (TSP) or nationally the Higher Order Thinking Skills (HOTS) program (see Appendix A for a checklist for middle school principals interested in HOTS for a further in-depth operational description).

Two questionnaires, a structured interview guide and a classroom observation instrument were used to gather information relative to the TSP program (see Appendix B for a copy of these instruments). All TSP teachers and their students were to be surveyed and each principal/assistant principal for instruction at the four middle schools were to be interviewed plus each compensatory education classroom teacher involved with the program were also to be observed. The questionnaires were distributed to teachers and students via interoffice mail on January 24, 1994. The completed questionnaires were to be returned via interoffice mail by Friday, February 11, 1994. Interviews with the principal and assistant principal for instruction were scheduled to take place February 8-10, 1994. Classroom observations of an entire classroom period were scheduled to start on February 9, 1994 and finish on February 18, 1994.

Presentation of Process Data

The Thinking Skills Program (TSP) Teacher Questionnaire (see Appendix B for a copy) was mailed through interoffice mail to the 18 TSP teachers on January 24, 1994 and was due back on February 11, 1994. As of March 4, 1994 when results were tabulated, 15 of 18 (83.3%) TSP middle school teachers had returned the questionnaire. The detailed tabulated results are presented in Appendix C.

The TSP teachers were also sent the Thinking Skills Program (TSP) Student Questionnaire on January 24, 1994 (see Appendix B for a copy). The teachers were directed to administer the survey in their classrooms and to return the completed instruments on or before February 11, 1994. As of March 4, 1994 when results were tabulated, 495 of 621 (79.7%) of the 6-8 grade students had completed the questionnaire. The results of these questionnaires are presented in Appendix D.

The middle school principals and their assistant principals for instruction were interviewed starting on February 8, 1994 and concluding on February 10, 1994 using the Thinking Skills Program (TSP) Principal/Assistant Principal Interview Guide (see Appendix B for a copy). The structured interviews were conducted by a trained evaluator. As of March 4, 1994 when tabulations were completed, 8 of 8 (100.0%) of the principals had been interviewed. The results of the principals are presented in Appendix E.

In addition, all 18 TSP teachers were observed by one of three evaluators using the 1993-94 TSP Classroom Observation Instrument (see Appendix B for a copy). The observations were completed from February 9-18, 1994. Each TSP teacher was observed over the course of a 50+ minute classroom period. A summary of the results of these observations can be found in Appendix H.

What follows are the salient points stemming from this year's process evaluation efforts of the 1993-94 TSP Program. The manager and two evaluators of the Evaluation Department reviewed the results of the questionnaires/ observations (Appendix G) and summarized them into areas of agreement and disagreement (when multiple respondent groups were asked a similar question), and a single perspective (when a single respondent group was asked a question that was not asked of another group). These areas of agreement, disagreement, and a sole perspective were then categorized as strengths and weaknesses. The item number(s) after each strength or weakness refers to the master question number given in Appendix F that relates this number back to the three survey/interview instruments (for compensatory education teachers, students, and principal/assistant principals and the classroom observation, respectively).

Areas of Agreement

An examination of the questionnaires/interview guide/classroom observation (Appendix H) from each respondent group (Appendices C, D, and E) the following areas of agreement about the program were noted. These areas of agreement then were categorized as a strength or weakness. The areas of agreement indicating a strength in the program included the following.

- Over 85% of the responding teachers (86.7%) and principals (87.5%) strongly agree/agree that students are interested and motivated by TSP activities and materials (Item 10).
- Approximately 75% of the responding teachers (73.3%) and principals (75.0%) believe that TSP teacher morale and interest in the program is high (Item 11).
- More than 74% of responding teachers (80.0%) and principals (75.0%) strongly agree/agree that the inservice in TSP methods was helpful for them and other teachers (Item 6).
- More than 74% of responding principals (75.0%) and teachers (80.0%) strongly agree/agree that other teachers are cooperative with TSP teachers (Item 7).

- Approximately half of the responding teachers (46.7%) and principals (50.0%) strongly agree/agree that students can write more complete questions and answers as a result of being in a TSP class (Item 8). In a related question, 51.7% of the students agree that as a result of the TSP class they can write more complete questions and answers to questions (Item 22).

- A majority of principals (75.0%) and TSP teachers (66.7%) perceive other regular education teachers supportive of TSP (Item 23).

- All principals (100.0%) and 86.7% of the TSP teachers see the principals as supportive of the TSP (Item 24).

- Students, teachers, and principals agree that one of the major strong points of the TSP program was the hands-on computer experience (Item 32).

- More than a majority of principals (62.5%) and students (51.1%) would like to see the TSP "continue" next year (Item 37).

The areas of agreement indicating a weakness in the program included the following.

- A minority of principals (25.0%) and teachers (33.3%) indicated that not all of the students eligible for the TSP program participated (Item 17).

- A small percentage of teachers (20.0%) and principals (37.5%) indicated that team teaching and/or block scheduling (elements of the new middle school configuration) have caused interference with the TSP program (Item 31).

- Approximately 75% of the TSP teachers (73.3%) and principals (75.0%) indicate TSP teachers have regular communication with other regular education teachers concerning the TSP program (Item 25). It is the desire of the Chapter 1 consultants that compensatory education teachers have frequent and meaningful communications with regular education teachers.

Areas of Disagreement

Again from an examination of the questionnaires/interview guide/classroom observation (Appendix H) from each respondent group (Appendices C, D, and E), the following areas of disagreement about the program were noted by the reviewers. These areas of disagreement were also categorized as either strengths or weaknesses.

The areas of disagreement indicating a strength in the program included the following.

- When strongly agree/agree relative to whether students find discussion at the end of a unit easier is examined, a range of response levels with the largest being for teachers at 93.3% followed by principals at 75.0% and students at 69.3% were seen (Item 2).

- The groups differed on whether students who do well enough at the end of their first year should be taken out of the program with the strongly agree/agree being the greatest for principals at 62.5% followed by teachers at 46.6% and students at 32.3% (Item 9). [It should be noted that the student question was worded in the reverse and that the disagree/strongly disagree percent is reflected above.]

The areas of disagreement indicating a weakness in the program included the following.

- The groups differed in strongly agree/agree relative to whether classrooms have enough computers with the largest positive response from principals at 100.0% followed by students at 82.6% and teachers 66.7% (Item 1).

- A total of 87.5% of the principals and 60.0% of the teachers felt they had enough supplies for the TSP classrooms (Item 29).

- All responding teachers (100.0%) strongly agree/agree that students are encouraged to use multiple problem-solving techniques; while 62.5% of the principals strongly agree/agree and the remaining principals (37.5%) are unsure (Item 12).

- Students show the largest strongly agree/agree of the three groups at 74.7% that what they learn in the TSP class helps them out with what is taught in their other classes, while this agreement is less for both teachers (53.3%) and principals (62.5%) (Item 3). In addition, 76.2% of the students feel that what they learn in the TSP class carries over to the lessons in their other classes (Item 21).

- A total of 26.7% of teachers have found difficulty in implementing TSP methods, while a total of 12.5% of the principals have not found TSP methods implemented (Item 18).

- The groups differed in their agreement with whether students compose eight questions at the end of each unit, principals agreed the most at 37.5% followed by students at 10.1%, and then teachers at 6.7% (Item 19).

- Responding groups differed in strongly agree/agree relative to whether having students write and answer eight questions at the end of each unit stimulates learning with teachers at 20.0%, principals at 59.7%, and students at 75.0% (Item 4). It should be noted that some teachers and students were told not to respond to this item because of the optional nature of this aspect of the TSP program.

- Over 79% of the teachers (80.0%) and principals (87.5%) strongly agree/agree that displaying students' work stimulates learning, while only 55.5% of the students say their learnings were displayed (Item 5).

- There was some disagreement about the weaknesses with the TSP program. The top weaknesses follow:

  - Teachers

    -- Some poor software selections because they are mastered too quickly (20.0%).

    -- More students than computers (13.3%).

  - Principals

    -- Advanced techniques of TSP teaching need specialized training of staff (37.5%).

    -- Advanced techniques need to be incorporated into regular education teachers' daily routine (37.5%).

    -- Perception that compensatory education equals special education (25.0%).

  - Students

    -- Teacher requires us to work (think) too much (6.8%).

    -- Working on the computer (6.7%).

Areas From a Single Perspective

Finally from an examination of the questionnaires/observation guide/classroom observation (Appendix H) from each respondent group (Appendices C, D, and E), the following areas from the standpoint of a single respondent were noted by the reviewers. These areas from a sole perspective were categorized as either a strength or weakness. The areas of a single perspective indicating a strength in the program included the following.

- A large majority of the students (79.9%) feel their teachers are comfortable with TSP materials and computers (Item 14).
- Almost all the students (88.3%) perceive their teachers as encouraging them to think about a problem in different ways (Item 15).
- All teachers indicated they have 17 or less students per TSP session (Item 27). Smallest reported class sizes ranged from 8 to 15 students (Item 28).
- Almost all of the TSP teachers (86.7%) feel there is ample space for students, computers, and materials, including room for discussions (Item 30).

The areas of a single perspective indicating a weakness in the program included the following.

- In the 18 teacher observations, a total of three (16.7%) captured a TSP teacher referring to class work in the regular classroom and showing how it related to TSP class work (Item 47).
- Most TSP teachers (53.3%) feel that non-TSP teachers do not understand the TSP program (Item 20).
- A total of 75% of the principals indicated that they regularly communicate with TSP teachers (Item 26).

Recommendations

Based on this year's process evaluation findings and in an effort to improve the implementation of the TSP program in the future, the following recommendations are offered.

- Program leadership should determine why approximately 25% of the teachers had difficulty implementing TSP methods and potential remedies to make future full implementation easier.

- Participating students still show low achievement levels especially in the area of reading. To allow the TSP program to better show achievement in reading, implementing optional program elements by TSP staff such as writing and answering eight questions at the end of each unit, etc. may be necessary.

- There should be a priority given to building in monies for the purchase of additional computers/printers and related supplies in next year's budget or getting approval to purchase these computers/printers/etc. with carry-over funds this school year.

- To help promote better understanding and communication with regular education teachers and principals, these staff members need to be allowed to practice TSP methods (meta-cognition, decision-making, and problem-solving) within their own classrooms. An inservice session relative to these methods/techniques needs to be scheduled for <u>all</u> middle school staff members.

- Steps that are now being planned to help increase the chances of all eligible students be scheduled into a TSP middle school classroom need to be carried out. These steps include the following: earlier production of updated participant listing, earlier completion of testing, and more prompt reporting of results to middle schools, etc.

APPENDICES

APPENDIX A

CHECKLIST FOR MIDDLE SCHOOL PRINCIPALS

(Conditions Under Which the HOTS Program is Effective for Chapter 1 and LD Students)

HOTS is a general thinking skills program designed primarily for Chapter 1 and mildly impaired Learning Disabled students in Grades 5-8. The thinking skills are designed to also enhance social interaction and basic skills. HOTS students are currently out-performing national averages for basic skill gains in reading and math, and the program has been validated by the National Diffusion Network.

HOTS represents a new approach to compensatory education. Instead of reteaching the information the students did not previously learn, HOTS provides the types of thinking skills that students need to be able to learn content the first time it is taught in the classroom. Producing basic skill gains, however, requires implementing the program in accordance with the recommendations that follow.

1. **HOTS requires a very good teacher.** A weak teacher simply cannot be successful. The pedagogical techniques are very sophisticated. The ideal teacher is someone who is very bright, energetic, flexible yet organized, and who above all loves to get kids to talk.

2. **HOTS requires a good overall school improvement effort in the regular classroom.** HOTS is designed to help a good, or improving, school get better. HOTS should not be implemented in a school with a weak staff, or where extensive school improvement has not already taken place. Since HOTS does not teach content, if the needed content is not covered in the regular classes, basic skills scores will not go up. This means high time-on-task, and quality direct instruction each day in reading and math activities aligned with test objectives.

3. **Proper scheduling.** The HOTS program is designed to substitute for, and replace, the remedial activities in the school. It needs a minimum of 35 minutes of instruction a day, 4 days a week, on an ongoing basis for 1½—2 years. This can be done either as a pullout or as a separate course. Schools that want to raise math scores can optionally use the fifth day, or 10-15 minutes at the end of each period, for computerized math drill and practice.

   Students should ideally be kept in the program for 1½—2 years, even if they test out at the end of the first year. This extra service is legal and helps students automate their new problem solving skills. First and second year HOTS students should be in separate sections.

   Students should be put into HOTS at the lowest grade level in the school (or when they first arrive). HOTS can be implemented either with a limited number of students, or as a school-wide model serving all needy students at the lowest grade level.

   A teacher can handle up to about 10 students at a time with 9 Apple II computers. A teacher and aide can handle up to about 16 students at a time with 13-15 computers.* Other pupil-teacher ratios with various combinations of personnel can be considered. HOTS project staff will assist in identifying other possible combinations.

   * (It's possible to do the program in the first year with a few less computers, but only for a year.)

4. **Quality, classroom instruction available to HOTS students.** It is critical that HOTS students get good content instruction in reading and math in their regular classes.

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5. **Proper budgeting.** Costs include: a) purchasing the needed equipment from local vendors, and b) training and support costs. The training and support costs per school are as follows:

Number of students served	Up to 25	25-85	More than 85
First year *	$750	$900	$1100
Second year	300	400	600
Thereafter	50	50	100

* Includes the support fee for the school and training one HOTS teacher and aide. Each additional HOTS teacher adds $450 to the first year costs. (No added cost the second year).

The support fee includes the curriculum, phone support, the HOTSTUFF newsletter, videotapes, and updates for as long as you use the program.

6. **General support by the principal.** There are a number of general leadership activities that increase the effectiveness of the program. The most important leadership activity is to implement and monitor a good overall school effectiveness program. It is also important to support the HOTS teacher who will have to work very hard, particularly the first year when the curriculum and techniques are unfamiliar. Additional support needs include:

   a) HOTS linkage activities consist of HOTS students writing eight questions and answers around a block of content every three weeks. These questions and answers are then brought to the HOTS lab and entered into the computer to make games and quizzes based on the content. Content teachers interested in working with the students on their writing of the questions in their class should be identified and encouraged to work with the HOTS students.

   b) Schedule presentations about HOTS for the entire staff early in the school year. This includes a 15 minute video overview of the program, and a 1½—2 hour workshop to train content area teachers on how to help students write questions. The latter should be conducted within the first three months by the HOTS teacher.

   c) Support public display of the HOTS students' prowess.

7. **Evaluating HOTS instruction.** DO NOT USE EEI EVALUATION TECHNIQUES. HOTS lessons are different. The best measure of the HOTS teacher's effectiveness is the number of complete answers he/she obtains from students—as opposed to one word answers—without giving obvious hints. The more one-word answers or hints, the weaker the lesson. There should be little talk by the teacher, and a lot by the students.

   DO NOT WORRY IF EARLY IN A UNIT STUDENTS SEEM CONFUSED ABOUT HOW TO PROCEED. Learning to use textual information to deal with uncertainty is one of the key skills that HOTS develops. The students will be successful by the end of the unit.

Feel free to contact Dr. Stanley Pogrow if you have further questions. Dr. Pogrow can be reached at: University of Arizona, College of Education, Tucson AZ 85721 or at (602) 621-1305.

APPENDIX A

Table A-1

Count of Program Participants* for the Compensatory Education Program, 1993-94

Building	K	1	2	3	4	5	Total
E. Baillie	0	30	19	19	5	11	84
Coulter	0	2	22	9	1	6	40
Emerson	0	28	27	24	9	18	106
Fuerbringer	0	9	22	18	3	8	60
N. Haley	0	10	22	2	0	0	34
Handley	0	0	0	0	0	0	0
Heavenrich	0	15	22	29	12	16	94
Herig	0	12	26	12	9	10	69
Houghton	0	23	11	16	2	4	56
Jerome	0	9	16	7	3	3	38
Jones	0	30	12	12	0	0	54
Kempton	0	6	18	12	4	3	43
Longfellow	0	29	26	47	15	9	126
Longstreet	0	24	22	14	15	9	84
J. Loomis	0	44	51	25	13	10	143
M. Park	0	15	22	22	7	20	86
C. Miller	0	5	16	5	0	0	26
J. Moore	0	14	20	18	2	8	62
Morley	0	10	17	20	4	19	70
J. Rouse	0	8	16	14	5	10	53
Salina	0	14	16	19	5	1	55
Stone	0	18	17	24	14	11	84
Webber Elem.	0	41	40	44	6	14	145
Zilwaukee	0	1	1	4	0	1	7
TOTAL	0	397	481	416	134	191	1,619

*Count as of January 13, 1994 computer run that included all participants.

APPENDIX A

Table A-2

Count of Program Participants* for the Compensatory Education Program, 1993-94

Building	7	8	9	Total
Central Middle	73	63	53	189
North Middle	39	36	23	98
South Middle	41	43	59	143
Webber Middle	60	74	57	191
TOTAL	213	216	192	621

*Count as of January 13, 1994 computer run that included all participants.

Table A-3

Count of Program Participants* for the Chapter 1 Program, 1993-94

Building	K	1	2	3	4	5	Total
E. Baillie	0	30	19	19	5	11	84
Coulter	0	2	22	9	1	6	40
Emerson	0	28	27	24	9	18	106
Fuerbringer	0	9	22	18	3	8	60
N. Haley	0	10	22	2	0	0	34
Handley	0	0	0	0	0	0	0
Heavenrich	0	15	22	29	12	16	94
Herig	0	12	26	12	9	10	69
Houghton	0	23	11	16	2	4	56
Jerome	0	9	16	7	3	3	38
Jones	0	30	12	12	0	0	54
Kempton	0	6	18	12	4	3	43
Longfellow	0	29	26	47	15	9	126
Longstreet	0	24	22	14	15	9	84
J. Loomis	0	44	51	25	13	10	143
M. Park	0	15	22	22	7	20	86
C. Miller	0	5	16	5	0	0	26
J. Moore	0	14	20	18	2	8	62
Morley	0	10	17	20	4	19	70
J. Rouse	0	8	16	14	5	10	53
Salina	0	14	16	19	5	1	55
Stone	0	18	17	24	14	11	84
Webber Elem.	0	41	40	44	6	14	145
Zilwaukee	0	1	1	4	0	1	7
TOTAL	0	397	481	416	134	191	1,619

*Count as of January 13, 1994 computer run that included all participants.

APPENDIX A

Appendix A-4

Count of Program Participants* in the Chapter 1 Program, 1993-94

Building	7	8	9	Total
Central Middle	73	63	53	189
North Middle	39	36	23	98
South Middle	41	43	59	143
Webber Middle	60	74	57	191
TOTAL	213	216	192	621

*Count as of January 13, 1994 computer run that included all participants.

Table A-5

Count of Program Participants* in the Article 3 Program, 1993-94

Building	K	1	2	3	4	5	Total
E. Baillie	0	30	19	19	0	11	79
Coulter	0	2	22	9	0	6	39
Emerson	0	28	27	24	0	18	97
Fuerbringer	0	9	22	18	0	8	57
N. Haley	0	10	22	2	0	0	34
Handley	0	0	0	0	0	0	0
Heavenrich	0	15	22	29	0	16	82
Herig	0	12	26	12	0	10	60
Houghton	0	23	11	16	0	4	54
Jerome	0	9	16	7	0	3	35
Jones	0	30	12	12	0	0	54
Kempton	0	6	18	12	0	3	39
Longfellow	0	29	26	47	0	9	111
Longstreet	0	24	22	14	0	9	69
J. Loomis	0	44	51	25	0	10	130
M. Pack	0	15	22	22	0	20	79
C. Miller	0	5	16	5	0	0	26
J. Moore	0	14	20	18	0	8	60
Morley	0	10	17	20	0	19	66
J. Rouse	0	8	16	14	0	10	48
Salina	0	14	16	19	0	1	50
Stone	0	18	17	24	0	11	70
Webber Elem.	0	41	40	44	0	14	139
Zilwaukee	0	1	1	4	0	1	7
TOTAL	0	397	481	416	0	191	1,485

*Count of January 13, 1994 computer run that included all participants.

APPENDIX A

Table A-6

Count of Program Participants* for the Article 3 Program, 1993-94

Building	7	8	9	Total
Central Middle	73	63	53	189
North Middle	39	36	23	98
South Middle	41	43	59	143
Webber Middle	60	74	57	191
TOTAL	213	216	192	621

*Count as of January 13, 1994 computer run that included all participants.

APPENDIX B

SCHOOL DISTRICT OF THE CITY OF SAGINAW

DEPARTMENT OF EVALUATION, TESTING AND RESEARCH

TO: Thinking Skills Program Teachers

FROM: Richard N. Claus

RE: Thinking Skills Program Questionnaire

DATE: January 24, 1994

Enclosed, please find a copy of the "Thinking Skills Program (TSP) Teacher Questionnaire". It is part of the midyear/process review of the Chapter 1/ Article 3 program and is designed to gain input from TSP teachers regarding the program's operation and ways it may be improved.

Please take a few moments to read and answer the questionnaire as fully as you can. Although we ask for your name and building, please be assured that **all responses will be kept confidential and only grouped responses will be reported.**

Also enclosed are copies of the "Thinking Skills Program (TSP) Student Questionnaire". It is also part of the process review and is designed to gain student input about the program.

There are enough copies enclosed for you to have each of your students complete one. Please have all of them do that during a TSP class session, asking them **not** to put their names on the forms and assuring them that all of their answers will be kept **confidential.** Also, please have all the students complete the form on the same day.

Please return the completed questionnaires through interoffice mail to Dr. Richard Claus in the Evaluation Department by **Friday, February 11, 1994.**

If you have any questions, you may contact me at Extension 307.

RNC/gal

Enclosures

APPENDIX B
THINKING SKILLS PROGRAM (TSP)
TEACHER QUESTIONNAIRE

Name: _____

School: _____

Date: _____

PART I

DIRECTIONS: Please indicate, based on your experiences with the TSP program this year, whether you agree with each of the following statements about your TSP classes. Circle SA if you Strongly Agree, A if you Agree, U if you are Unsure, D if you Disagree, or SD if you Strongly Disagree.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
1. The classroom has enough computers.	SA	A	U	D	SD
2. As TSP units are almost completed most students are better at beginning discussion.	SA	A	U	D	SD
3. TSP activities and materials supplement what the students are taught in other classes.	SA	A	U	D	SD
4. Having the students write and answer eight questions works to stimulate learning.	SA	A	U	D	SD
5. Displaying the students' work stimulates learning.	SA	A	U	D	SD
6. The inservice training in TSP methods was helpful.	SA	A	U	D	SD
7. The other teachers are cooperative with TSP teachers.	SA	A	U	D	SD
8. Students can write more complete questions and answers as a result of being in a TSP class.	SA	A	U	D	SD
9. Students who do good enough at the end of their first year should be taken out of the program.	SA	A	U	D	SD
10. Students are interested and motivated by the TSP activities and materials.	SA	A	U	D	SD
11. TSP teacher morale and interest in the program is high.	SA	A	U	D	SD
12. Students are encouraged to use multiple problem-solving techniques (for example, verbal deductive reasoning, etc.)	SA	A	U	D	SD

APPENDIX B

PART II

DIRECTIONS: Please answer the following questions as completely as possible.

13. What documentation, if any, did you receive to help you in determining which students were eligible for the TSP program?

_____

_____

_____

_____

_____

14. When did you receive this documentation? _____

From whom? _____

15. Are all of the students at your building, who are at or below the 25th percentile (or 36th NCE; on CAT 5 Vocabulary and/or Math Computation) identified for participation in the TSP program?

____ Yes

____ No

If no, please specify the following:

____ The number of students (estimate) who should be in the program but who are not.

____ The number of students (estimate) who should not be in the program but who are.

What do you think caused these discrepancies?

_____

_____

_____

_____

_____

What do you believe could be done to improve the selection process?

_____

_____

_____

_____

_____

16. Have you found the TSP methods difficult to implement?

____ Yes

____ No

If yes, in what ways?
If no, why do you think the methods implement easily?

_____

_____

_____

17. Do you have students compose eight questions at the end of each unit?

____ Yes

____ No

If yes, does it seem to work well and why?
If no, why not?

_____

_____

_____

18. Do most other non-TSP teachers understand the program?

____ Yes

____ No

If yes, does the understanding allow them to help your students in their classes?
If no, what should be done to bring about understanding?

_____

_____

_____

19. Are the other non-TSP teachers supportive of TSP?

____ Yes

____ No

If yes, in what ways?
If no, are they in opposition or indifferent to TSP?

_____

_____

_____

20. Is (Are) the principal(s) supportive of TSP?

____ Yes

____ No

If yes, in what ways?
If no, are they in opposition or indifferent to TSP?

_____

_____

_____

21. Is there regular communication between you and the other teachers?

____ Yes

____ No

If yes, in what ways?
If no, how do you think communication can be enhanced?

_____

_____

_____

22. How many children are in your largest TSP class? _____

23. How many children are in your smallest TSP class? _____

24. Do you have enough computers and supplies for your TSP classroom needs?

____ Yes

____ No

If no, what are you lacking and how much more would you need to consider the classroom adequately supplied?

_____

_____

_____

25. Is there ample space for students, computers, and materials including room for discussion?

____ Yes

____ No

If no, what is the space concern?

_____

_____

_____

26. Since this is our first year in the middle school configuration, have there been problems with team teaching or block scheduling that have caused interference with the TSP program?

____ Yes

____ No

If yes, what are the problems and how have they caused interference?

_____

_____

_____

27. What do you think are the strong points of the TSP program?

_____

_____

_____

28. What do you think are the weak points of the TSP program?

_____

_____

_____

29. What do you think are some of the unexpected outcomes of the TSP program?

_____

_____

_____

30. How can the program be improved?

_____

_____

_____

31. What additional supportive resources; for example, computer support personnel, inservice training, new software, etc.; are needed to help make the TSP program more successful?

_____

_____

_____

THANK YOU FOR YOUR TIME!

APPENDIX B

THINKING SKILLS PROGRAM (TSP)
STUDENT QUESTIONNAIRE

School: _____

Date: _____

PART I

DIRECTIONS: Please indicate whether you agree with each of the following statements about your TSP classroom. Circle SA if you Strongly Agree, A if you Agree, U if you are Unsure, D if you Disagree, or SD if you Strongly Disagree.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
1. I have access to computers when I need it.	SA	A	U	D	SD
2. At the end of the TSP unit, I find it easy to begin discussions.	SA	A	U	D	SD
3. What I learn in my TSP helps me out with what is taught in my other classes.	SA	A	U	D	SD
4. Writing and answering the eight questions helps me to understand the unit better.	SA	A	U	D	SD
5. My work from class is displayed by my teacher.	SA	A	U	D	SD
6. If I do good enough at the end of my first year, I should be allowed to stay in the program.	SA	A	U	D	SD
7. My teacher is comfortable with the TSP materials and computers.	SA	A	U	D	SD
8. My teacher encourages me to think about a problem in different ways.	SA	A	U	D	SD

APPENDIX B

PART II

DIRECTIONS: Please answer the following questions as completely as possible.

9. Do you make up eight questions at the end of each unit?

____ Yes

____ No

If yes, does it seem to help you and your fellow students understand the lessons and why?
If no, why aren't you writing them?

_____

_____

_____

10. Does what you learn in your TSP class carry over to what you learn in your other classes?

____ Yes

____ No

If yes, in what ways?
If no, what is different?

_____

_____

_____

11. Do you think you can write more complete questions and answers as a result of being in your TSP class?

____ Yes

____ No

If yes, in what ways?
If no, why not?

_____

_____

_____

12. What do you think are the good points of your TSP class?

_____

_____

_____

13. What don't you like about your TSP class?

_____

_____

_____

14. Would you like to take another class like TSP next semester or year?

____ Yes

____ No

15. What letter grade did you get in TSP for the last six weeks?

____ A

____ B

____ C

____ D

____ E

16. How often were you absent from the TSP class during the last six week period?

____ No absences

____ 1-3 absences

____ 4-6 absences

____ 7-9 absences

____ 10 or more absences

THANK YOU FOR YOUR TIME!

APPENDIX B

THINKING SKILLS PROGRAM (TSP)
PRINCIPAL/ASSISTANT PRINCIPAL
INTERVIEW GUIDE

Name: _____

School: _____

Date: _____

DIRECTIONS: Read aloud the statements and questions below. Fill in answers as appropriate.

Read Aloud: As part of the 1993-94 mid-year/process review of the Chapter 1/Article 3 program, an interview of the administrative middle school staff is being undertaken. The interview is designed to gain your input regarding the Thinking Skills Program (TSP) operation in your building and how it may be improved.

PART I

Read Aloud: First I will read a series of statements about the TSP program operations. Please indicate, based on your classroom observations, whether you agree with each of the following statements about your TSP classrooms. Indicate if you Strongly Agree, Agree, are Unsure, Disagree, or if you Strongly Disagree, with the statement. Any comments about your rating would be appreciated.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree	Comments
1. The classrooms have enough computers.	SA	A	U	D	SD	
2. As TSP units are almost completed most students begin discussion easily.	SA	A	U	D	SD	
3. TSP activities and materials supplement what the students are taught in other classes.	SA	A	U	D	SD	
4. Having the students write and answer eight questions works to stimulate learning.	SA	A	U	D	SD	
5. Displaying the students' work stimulates learning.	SA	A	U	D	SD	
6. The inservice training in TSP methods was helpful for both the TSP and regular education teachers.	SA	A	U	D	SD	
7. The regular education teachers are cooperative with TSP teachers.	SA	A	U	D	SD	

PART I (Continued)

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree	Comments
8. Students can write more complete questions and answers as a result of being in a TSP class.	SA	A	U	D	SD	
9. Students who do good enough at the end of their first year should be taken out of the program.	SA	A	U	D	SD	
10. Students are interested and motivated by TSP activities and materials.	SA	A	U	D	SD	
11. TSP teacher morale and interest in the program is high.	SA	A	U	D	SD	
12. Students are encouraged to use multiple problem-solving techniques (for example, verbal deductive reasoning, etc.).	SA	A	U	D	SD	

PART II

Read Aloud: Now let us move onto some other operational questions about the TSP program.

13. What documentation did you receive to help you in determining which students were eligible for the TSP program?

_____

_____

_____

_____

_____

14. When did you need this documentation? _____

When did you receive this documentation and from whom? _____

_____

15. Are all of the students at your building, who are at or below the 25th percentile (or 36th NCE; on CAT 5 Vocabulary and/or Math Computation) identified for participation in the TSP program?

____ Yes

____ No

If no, please specify the following:

____ The number of students (estimate) who should be in the program but who are not.

____ The number of students (estimate) who should not be in the program but who are.

What do you think caused these discrepancies?

_____

_____

_____

_____

_____

What do you believe could be done to improve the selection process?

_____

_____

_____

_____

_____

16. Have you found the TSP methods implemented?

____ Yes

____ No

If yes, in what ways?
If no, why do you think the methods are not implemented?

_____

_____

_____

17. Do the students each compose eight questions at the end of each unit?

____ Yes

____ No

If yes, does it seem to work well and why?
If only in some, why there and not at all sites?
If no, why not?

_____

_____

_____

18. Are the other regular education teachers supportive of TSP?

____ Yes

____ No

If yes, in what ways?
If no, are they in opposition or indifferent to TSP?

_____

_____

_____

19. In what ways are you supportive of TSP?

_____

_____

_____

20. Is there regular communication between the TSP and the regular education teachers?

____ Yes

____ No

If yes, in what ways?
If no, how do you think communication can be enhanced?

_____

_____

_____

21. Is there regular communication between you and the TSP teachers?

____ Yes

____ No

If yes, in what ways?
If no, how do you think communication can be enhanced?

_____

_____

_____

22. Do you have supplies for the TSP classroom needs?

____ Yes

____ No

If no, what are you lacking and how much more would you need to consider the classroom adequately supplied?

_____

_____

_____

23. What additional supportive resources (for example, computer support personnel, additional inservice training, new software, etc.) are needed to help make the TSP program more successful?

_____

_____

_____

24. Since this is our first year in the middle school configuration, have there been problems with team teaching and/or block scheduling that have caused interference with the TSP program?

____ Yes

____ No

If yes, what are the problems with team teaching and/or block scheduling that have caused interference with the TSP program?

_____

_____

_____

25. What do you think are the strong points of the TSP program?

_____

_____

_____

26. What do you think are the weak points of the TSP program?

_____

_____

_____

27. What do you think were some of the unexpected outcomes of the TSP program?

_____

_____

_____

28. Is there another, but different way, to deliver better compensatory education services?

____ Yes

____ No

If yes, what are the other possible delivery systems?
If no, why is TSP superior to the other possible delivery systems?

_____

_____

_____

29. Do you want the TSP program to continue? (Check one)

____ Continue

____ Expand

____ Terminate

Please explain. _____

_____

_____

Read Aloud:

THANK YOU FOR YOUR TIME!

APPENDIX B

1993-94 TSP CLASSROOM OBSERVATION INSTRUMENT

INSTRUCTIONS: Please check or fill-in as appropriate.

Date: _____

Time Class Began: _____

Evaluator: _____ Teacher: _____ Location: _____

Enrollment: _____ Attendance: Number _____ Percent _____

I. CLASSROOM ENVIRONMENT

1. What is the number of computers which are in good working condition? _____

2. How many samples of student work are displayed on the walls? _____

3. How is attendance taken? _____

4. Does the teacher encourage students to solve problems with "thinking strategies"?

   ____ Yes ____ No

5. Do the students seem motivated and/or enthusiastic toward the class activities?

   ____ Yes ____ No

6. Does the teacher seem motivated and/or enthusiastic toward the class activities?

   ____ Yes ____ No

7. Does the teacher seem to be able to motivate and/or encourage students?

   ____ Yes ____ No

8. Does the teacher refer to class work in the regular classroom and show how its related to TSP class work?

   ____ Yes ____ No

9. Is the class reaching the end of a unit? ____ Yes ____ No

   If yes, are students writing a group of questions? ____ Yes ____ No

APPENDIX B

II. INSTRUCTION

1. What is the major learning activity during each ten minutes of the TSP class and what role does the teacher play in that activity?

Time	Activity	Role
Example:	Lecture	Lecturer/Answer Questions
First 10 minutes		
Second 10 minutes		
Third 10 minutes		
Fourth 10 minutes		
Fifth 10 minutes		

2. What type of lesson was presented? (Please provide descriptive details.)

_____

_____

_____

_____

APPENDIX C

THINKING SKILLS PROGRAM (TSP)
TEACHER QUESTIONNAIRE
(N=15)*

PART I

DIRECTIONS: Please indicate, based on your experiences with the TSP program this year, whether you agree with each of the following statements about your TSP classes. Circle SA if you Strongly Agree, A if you Agree, U if you are Unsure, D if you Disagree, or SD if you Strongly Disagree.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree	No Response.
1. The classroom has enough computers.	5(33.3)	5(33.3)	0(0.0)	1(6.7)	3(20.0)	1(6.7)
2. As TSP units are almost completed most students are better at beginning discussion.	3(20.0)	7(73.3)	0(0.0)	1(6.7)	0(0.0)	0(0.0)
3. TSP activities and materials supplement what the students are taught in other classes.	2(13.3)	6(40.0)	4(26.7)	2(13.3)	1(6.7)	0(0.0)
4. Having the students write and answer eight questions works to stimulate learning.	1(6.7)	2(13.3)	5(33.3)	1(6.7)	0(0.0)	6(40.0)
5. Displaying the students' work stimulates learning.	7(46.7)	5(33.3)	3(20.0)	0(0.0)	0(0.0)	0(0.0)
6. The inservice training in TSP methods was helpful.	7(46.7)	5(33.3)	1(6.7)	2(13.3)	0(0.0)	0(0.0)
7. The other teachers are cooperative with TSP teachers.	4(26.7)	8(53.3)	2(13.3)	0(0.0)	0(0.0)	1(6.7)
8. Students can write more complete questions and answers as a result of being in a TSP class.	3(20.0)	4(26.7)	4(26.7)	3(20.0)	0(0.0)	1(6.7)
9. Students who do good enough at the end of their first year should be taken out of the program.	2(13.3)	5(33.3)	2(13.3)	4(26.7)	1(6.7)	1(6.7)
10. Students are interested and motivated by the TSP activities and materials.	7(46.7)	6(40.0)	0(0.0)	2(13.3)	0(0.0)	0(0.0)
11. TSP teacher morale and interest in the program is high.	5(33.3)	6(40.0)	2(13.3)	2(13.3)	0(0.0)	0(0.0)
12. Students are encouraged to use multiple problem-solving techniques (for example, verbal deductive reasoning, etc.)	7(46.7)	8(53.3)	0(0.0)	0(0.0)	0(0.0)	0(0.0)

*Teachers were able to offer more than one response to the open-ended questions.

APPENDIX C

PART II

DIRECTIONS: Please answer the following questions as completely as possible.

13. What documentation, if any, did you receive to help you in determining which students were eligible for the TSP program?

• CAT test scores	7	46.7
• None, the Counseling Office did the selection process.	6	40.0
• I received data sheets on some of my students about eligibility, but did not receive data sheets on every student.	1	6.7
• I made it a point to check the city-wide printout.	1	6.7

14. When did you receive this documentation?

• September	3	20.0
• About 1-1/2 months into the school year/ end of the first marking period.	2	13.3
• Second week of school	1	6.7
• About 3 weeks after the start of school	1	6.7
• At the beginning of school	1	6.7
• At a TSP meeting	1	6.7
• No response	4	26.7
• Not applicable	2	13.3

From whom?

• School counselor	7	46.7
• Assistant principal	4	26.7
• No response	2	13.3
• Not applicable	2	13.3

15. Are all of the students at your building, who are at or below the 25th percentile (or 36th NCE; on CAT 5 Vocabulary and/or Math Computation) identified for participation in the TSP program?

Yes	5	33.3
No	5	33.3
No opinion	3	20.0
Unsure	1	6.7
Don't know	1	6.7

If no, please specify the following:

The number of students (estimate) who should be in the program but who are not.

10	1	33.3
50 - 60	1	33.3
100	1	33.3

The number of students (estimate) who should not be in the program but who are.

1	1	33.3
5	1	33.3
2 - 3	1	33.3

What do you think caused these discrepancies?

• Scheduling conflicts	3	20.0
• Students who are enrolled in CAS or have made honor roll were excluded.	1	6.7
• Cannot estimate false positives and negatives without having access to all their scores.	1	6.7
• Transfer of students between buildings/lack of records.	1	6.7
• Late documentation and insufficient class openings to accommodate all students.	1	6.7
• No response	8	53.3

What do you believe could be done to improve the selection process?

• Past year/TSP teacher input	3	20.0
• Earlier access to test scores	2	13.3
• Test scores from core teachers	1	6.7
• Grades should be considered	1	6.7
interview [students] to see how they respond to each teacher.	1	6.7
• Specific policy directive from a higher authority/better bookkeeping process and documentation.	1	6.7
• No response	6	40.0

16. Have you found the TSP methods difficult to implement?

Yes	3	20.0
No	10	66.7
No opinion	1	6.7
Yes/No	1	6.7

If yes, in what ways?

• Not so much with grades 6 and 7 but 8th grade has been challenging (responded yes/no).	1	6.7
• Some of the questions in discussion are confusing.	1	6.7
• The dialog and some of the materials we are required to teach from are not designed to meet the needs of Saginaw students, per se.	1	6.7
• I am finding it difficult to keep up with the curriculum schedule.	1	6.7

If no, why do you think the methods implement easily?

• Because of the training we received before teaching in the program.	2	13.3
• The methods implement easily due to the guide.	2	13.3
• Probing questions have to [begin early in the lesson] or the students do not think critically.	1	6.7
• Depends on the teacher's attitude.	1	6.7
• Smaller classes - more individualized instruction.	1	6.7

17. Do you have students compose eight questions at the end of each unit?

Yes	1	6.7
No	10	66.7
No opinion	2	13.3
Don't know	1	6.7
Yes/No	1	6.7

If yes, does it seem to work well and why?

• Depending on the unit and the topic - sometimes it works well, sometimes not (responded yes/no).	1	6.7
• We do have questions. I also have the students write summaries, comments, make predictions, and strategies. I vary the different activities so that the lessons are more interesting.	1	6.7

If no, why not?

• I was not aware of that part of the program.	3	20.0
• It was never stressed as a necessary part of the program.	1	6.7
• We use to do it but now it's a hassle to get them to do it and for them to understand why it's needed.	1	6.7
• Verbal questioning works best with my students.	1	6.7
• Eight questions are too many - 3 or 4 is (sic) enough.	1	6.7
• We never used this (sic) technique.	1	6.7

18. Do most other non-TSP teachers understand the program?

Yes	6	40.0
No	8	53.3
Don't know	1	6.7

If yes, does the understanding allow them to help your students in their classes?

• Not at this time.	1	6.7
• Yes	1	6.7
• The sixth grade teachers ... understand the program ... [and] use some techniques in their classes to help [TSP] students.	1	6.7
• Most other teachers may or may not believe that the socratic method is the best way to teach.	1	6.7
• By focusing on [the students] areas of difficulty.	1	6.7

If no, what should be done to bring about understanding?

• Some form of inservice/M-5 inservice.	2	13.3
• Periodic visitations to the classrooms.	2	13.3
• A comprehensive training workshop involving the entire staff.	1	6.7
• A short introduction at the beginning of the year would be sufficient.	1	6.7
• Mini demonstration to the staff.	1	6.7

Other?

• I don't know - haven't discussed it.	1	6.7

19. Are the other non-TSP teachers supportive of TSP?

Yes	10	66.7
No	1	6.7
No opinion	4	26.7

If yes, in what ways?

• They supply students' vocabulary words and information for activities; share information about students.	2	13.3
• They know we are trying to help kids, perhaps not how we do it.	1	6.7
• Identify areas of weaknesses and strengths.	1	6.7
• They come to me occasionally to discuss a student I have helped.	1	6.7
• Those who oppose do not see the effect of what we are attempting to teach reach their classrooms -- due to behavior/discipline problems in TSP classes.	1	6.7
• Students are allowed extra time to complete assignments.	1	6.7
• The sixth grade teachers ... understand the program ... [and] use some techniques in their classes to help [TSP] students.	1	6.7
• After explanation, they know about the class and its reason.	1	6.7

If no, are they in opposition or indifferent to TSP?

• Indifferent	1	6.7

Other?

• My TSP students are also in my core classes.	1	6.7
• I haven't heard one way or another.	1	6.7
• Most do not know what this course is about.	1	6.7

20. Is (Are) the principal(s) supportive of TSP?

Yes	13	86.7
No	0	0.0
No opinion	2	13.3

If yes, in what ways?

• Information, materials, and computers are given; rooms have been revamped.	2	13.3
• [They] ... provide timely schedules, a good working environment, and sufficient supplies for our classes.	1	6.7
• Compliment the program/visit the classroom.	1	6.7
• By scheduling students: 15 into each class, not scheduling other classes into TSP classroom, and scheduling [same level] classes back to back, [lessening] setting up and taking down [time].	2	13.3
• The principal allows the TSP teachers to attend inservices, meetings, etc. They try to help in any way possible. We have always had good support [here].	1	6.7
• By understanding the program - allowing teachers to teach classes.	1	6.7

If no, are they in opposition or indifferent to TSP?

• I have no idea, they haven't approached me about the class.	1	6.7

21. Is there regular communication between you and the other teachers?

Yes	11	73.3
No	3	20.0
No opinion	1	6.7

If yes, in what ways?

• Discussion in faculty/team meetings.	3	20.0
• In reference to students' progress achievement, and behavior.	2	13.3
• Other TSP teachers except 2, [discuss] where in the program [my class] should be, how to get there, etc.	1	6.7
• Students are identified who can help other teachers.	1	6.7
• The team teacher and I plan our TSP activity together.	1	6.7
• Daily and weekly conversion.	1	6.7
• Share ideas/materials for improvement; solve problems dealing with software and/or lessons.	1	6.7

If no, how do you think communication can be enhanced?

• By putting TSP students with one team of teachers and attaching the TSP teacher to that team.	1	6.7
• [Freeing] teacher schedules	1	6.7
• Not enough time; constraints prevent much of this from happening.	1	6.7

Other?

• Children are in my core class	1	6.7

22. How many children are in your <u>largest</u> TSP class?

11	2	13.3
12	0	0.0
13	1	6.7
14	3	20.0
15	7	46.7
16	1	6.7
17	1	6.7

23. How many children are in your <u>smallest</u> TSP class?

8	1	6.7
9	1	6.7
10	0	0.0
11	2	13.3
12	2	13.3
13	1	6.7
14	2	13.3
15	1	6.7

APPENDIX C

24. Do you have enough computers and supplies for your TSP classroom needs?

Yes	9	60.0
No	6	40.0

If no, what are you lacking and how much more would you need to consider the classroom adequately supplied?

• One computer for each student; one for the teacher.	2	13.3
• I have 12 computers and 15 students; some software is okay, some is (sic) in very short supply.	1	6.7
• Administration will put too many students in the program, therefore, not enough computers are on hand. Also lack of good, quality teaching computer programs and textbooks/workbooks, ribbons.	1	6.7
• Four computers with printers and one extra printer for a computer that came without one.	1	6.7
• Would like to order several programs for variety.	1	6.7
• However, it would be great to have at least one Macintosh computer in the classroom with all Apples. By so doing, (can gain the experience needed to operate both as well as be able to know software for both (responded yes).	1	6.7

25. Is there ample space for students, computers, and materials including room for discussion?

Yes	13	86.7
No	2	13.3

If no, what is the space concern?

• Not in my room. We have the discussion here, then move upstairs to use the computers.	1	6.7
• Students are easily distracted with the work from the other class.	1	6.7
• However, this year due to my advisory class, 21 students' desks reduced the space causing the room to look crowded (responded yes).	1	6.7

26. Since this is our first year in the middle school configuration, have there been problems with team teaching or block scheduling that have caused interference with the TSP program?

Yes	3	20.0
No	10	66.7
No opinion	2	13.3

If yes, what are the problems and how have they caused interference?

• Too many to list and no one to tell the problems to who would LISTEN!!!	1	6.7
• Sixth grade lunch hour causes difficulty in scheduling.	1	6.7
• Many students are cross scheduled between different teams.	1	6.7
• You should talk with [the assistant principal here] (responded no comment).	1	6.7
• We haven't had a problem yet. However I forsee a time when there will be a very big problem (responded no comment).	1	6.7
• In the Fall, we had problems with the amount of space available. We later opened another computer room. (responded no).	1	6.7
• Sessions for each level are not back to back. I have to [reorganize five times daily which] eliminates individual time with students (responded no).	1	6.7

APPENDIX C

27. What do you think are the strong points of the TSP program?

• New curriculum using socratic method of teaching/question and answer methods, and class discussion.	6	40.0
• Use of computers/computer assisted instruction.	6	40.0
• Key thinking skills (meta cognition, inference from context, decontextualization, and synthesis of information).	6	40.0
• Low class size	4	26.7
• Fun while learning	1	6.7
• Individualized instruction	1	6.7
• Wait time	1	6.7
• Focus on success	1	6.7
• Focus on key vocabulary words	1	6.7
• Monthly teacher meetings and training sessions	1	6.7
• The teachers	1	6.7
• It helps to build the students' confidence	1	6.7
• [Teachers] can change to different supportive materials if needed.	1	6.7

28. What do you think are the weak points of the TSP program?

• Some of the software were poor selections/ too easily mastered.	3	20.0
• More students than computers/not enough computers.	2	13.3
• I was not trained well enough to be able to offer enough help to the students.	1	6.7
• Not enough math materials.	1	6.7
• Working with eighth grade.	1	6.7
• Not sure how the students will carry new skills to pass the CAT test.	1	6.7
• Too many to mention.	1	6.7
• The number of teachers teaching TSP.	1	6.7
• It's not accessible to more students who would benefit from it.	1	6.7
• One game called SNAP did not interest the students.	1	6.7
• Teachers do not follow the program. We should know there will be 2 to 3 years of TSP and at what grade level.	1	6.7
• Trying to make the students understand the values of the program.	1	6.7

29. What do you think are some of the unexpected outcomes of the TSP program?

• A reasonable level of computer literacy/ computer interest.	3	20.0
• The students get to know each other well/ learn cooperation and team work.	2	13.3
• Levels/rates of learning vary from year to year.	1	6.7
• Some students begin to believe in themselves.	1	6.7
• Some students that (sic) need assistance aren't getting it.	1	6.7
• Every student wants to get in.	1	6.7
• Close relationship between student and teacher because of the low class size.	1	6.7
• Some typing experience.	1	6.7
• Scientific method type thinking	1	6.7
• A program for problem solving	1	6.7
• I have not participated in the program long enough to make an assessment.	1	6.7
• Unsure of what [the question] means	1	6.7
• None	1	6.7
• No response	2	13.3

30. How can the program be improved?

• More training/inservices for new teachers in the program.	2	13.3
• Include teacher input/listen to your TSP teachers.	2	13.3
• Sometimes the dialog is repetitive/ immature; the students would like to move along a little faster.	2	13.3
• Include math for those students who have that as their weak area.	1	6.7
• Develop math curriculum over summer and implement it in the fall.	1	6.7
• Supply more materials for math concepts.	1	6.7
• There needs to be more linkage to the [regular education] classroom work being done by students.	1	6.7
• If students were placed on one team, it would be beneficial.	1	6.7
• By having a computer for each student and each teacher.	1	6.7
• Offer more sections to be able to include more students.	1	6.7
• Someone is needed to take care of equipment, order materials, and coordinate materials.	1	6.7
• Constantly reinforce the importance of following the program (HOTS) design. None of our teachers have the time to develop an alternative curriculum.	1	6.7
• Continue to have monthly meetings for sharing, problem solving, and personal improvement.	1	6.7
• No response.	2	13.3

APPENDIX C

31. What additional supportive resources; for example, computer support personnel, inservice training, new software, etc.; are needed to help make the TSP program more successful?

• New software representing grade/interest as well as linking concepts for year two.	3	20.0
• Once a month training for new teachers and update training for old timers/ training - not a talking session.	2	13.3
• More copies of the programs/software.	2	13.3
• All of the above.	1	6.7
• I need for my classroom [structure - painting and sink] to be finished.	1	6.7
• We need monthly meetings to share ideas, lend support, and brainstorm.	1	6.7
• No response.	1	6.7
	5	33.3

APPENDIX D

THINKING SKILLS PROGRAM (TSP)
STUDENT QUESTIONNAIRE
(N=495)

PART I

DIRECTIONS: Please indicate whether you agree with each of the following statements about your TSP classroom. Circle SA if you Strongly Agree, A if you Agree, U if you are Unsure, D if you Disagree, or SD if you Strongly Disagree.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
1. I have access to computers when I need it.	245(47.8)	171(34.8)	46(9.3)	22(4.5)	8(1.6)
2. At the end of the TSP unit, I find it easy to begin discussions.	107(21.9)	232(47.4)	95(19.4)	38(7.8)	17(3.5)
3. What I learn in my TSP helps me out with what is taught in my other classes.	163(33.2)	204(41.5)	51(10.4)	56(11.4)	17(3.5)
4. Writing and answering the eight questions helps me to understand the unit better.[a]	43(22.7)	70(37.0)	44(23.3)	23(12.2)	9(4.8)
5. My work from class is displayed by my teacher.	119(24.4)	205(42.1)	94(19.3)	48(9.9)	21(4.3)
6. If I do good enough at the end of my first year, I should be allowed to stay in the program.	145(29.5)	128(26.0)	60(12.2)	83(16.9)	76(15.4)
7. My teacher is comfortable with the TSP materials and computers.	206(42.0)	186(37.9)	83(16.9)	11(2.2)	5(1.0)
8. My teacher encourages me to think about a problem in different ways.	241(48.7)	196(39.6)	32(6.5)	16(3.2)	10(2.0)

[a] Many students were directed by their teachers not to respond to this question.

APPENDIX D

PART II

DIRECTIONS: Please answer the following questions as completely as possible.

9. Do you make up eight questions at the end of each unit?

Yes	50	10.1
No	174	35.2
No response*	271	54.7

10. Does what you learn in your TSP class carry over to what you learn in your other classes?

Yes	377	76.2
No	105	21.2
No response	13	2.6

11. Do you think you can write more complete questions and answers as a result of being in your TSP class?

Yes	256	51.7
No	108	21.8
No response	131	26.5

*Many students were directed by their teachers not to respond to this question.

APPENDIX D

12. What do you think are the good points of your TSP class?

- You get to work on computers and learn how to use computers 211
- Writing, listening, and note taking 76
- Help from the teacher 70
- Learning different things 51
- Playing games 37
- Working together 29
- The class is fun 24
- Problem solving skills, making my own decisions, and/or thinking for myself 23
- Doing math 16
- Smaller class size 13
- Reading 9
- Everything 8
- It's helping me to bring up my grades 7
- None or don't know 6
- The grading 5
- My classmates 3
- Projects 2
- Teacher values 2
- Learning about the world and nations/facts 2
- Watching movies 2
- Helps me to learn reading and math 2
- Work harder in other classes 1
- No homework 1
- Won't have to take the computer class next year 1
- No ditto sheets 1
- Drawing 1
- Respect 1
- You don't have to take gym 1

APPENDIX D

13. What don't you like about your TSP class?

- I like everything 160
- Teacher talks too much, the way the teacher treats us, and/or the teacher doesn't have enough time for each student 34
- Working on the computer 33
- The class is boring, I don't like it, no fun, the class is too easy, or sometimes it's not fun 26
- Doing the written work 22
- Not enough time on the computer and/or we have to share computers 20
- Can't get comfortable in the classroom 20
- Math or math day 16
- Reading assignments 15
- Too many steps to go through for assignments, amount of time to do projects, and/or having a folder 14
- Discussions and/or talking in front of the class 11
- Some of the students 10
- Can't take other electives 9
- The class time too long or too short 8
- We don't get a day off, we work all the time, or we work too much 7
- Interruptions in our class 7
- I don't like anything 5
- You have to take TSP for two years 5
- Rules 4
- The grading system 3
- The computer games are for kids 2
- People think the class is Special Education 2
- Students can move around anytime they want to or playing around 2
- Computer work can be confusing 2
- Working with maps 2
- I feel I don't need TSP 2
- Doing work that doesn't pertain to TSP 1
- Use of the writer 1
- They don't help 1
- Films/movies 1
- Can't do things in TSP that can be done in other classes 1
- Things don't always come in handy 1
- Not enough students in the class 1
- We don't learn much 1
- We should be able to do more articulate things 1
- No field trips 1
- Too much thinking 1
- The time of my class 1

APPENDIX D

14. Would you like to take another class like TSP next semester or year?

Yes	253	51.1
No	209	42.2
No response	33	6.7

15. What letter grade did you get in TSP for the last six weeks?

A	166	33.5
B	177	35.8
C	89	18.0
D	25	5.0
E	7	1.4
No response	31	6.3

16. How often were you absent from the TSP class during the last six week period?

No absences	84	17.0
1-3 absences	221	44.6
4-6 absences	103	20.8
7-9 absences	23	4.6
10 or more absences	37	7.5
No response	27	5.5

APPENDIX E

THINKING SKILLS PROGRAM (TSP)
PRINCIPAL/ASSISTANT PRINCIPAL
INTERVIEW GUIDE (N = 8)

DIRECTIONS: Read aloud the statements and questions below. Fill in answers as appropriate.

Read Aloud: As part of the 1993-94 mid-year/process review of the Chapter 1/Article 3 program, an interview of the administrative middle school staff is being undertaken. The interview is designed to gain your input regarding the Thinking Skills Program (TSP) operation in your building and how it may be improved.

PART I

Read Aloud: First I will read a series of statements about the TSP program operations. Please indicate, based on your classroom observations, whether you agree with each of the following statements about your TSP classrooms. Indicate if you Strongly Agree, Agree, are Unsure, Disagree, or if you Strongly Disagree, with the statement. Any comments about your rating would be appreciated.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree	Comments
1. The classrooms have enough computers.	3(37.5)	5(62.5)	0(0.0)	0(0.0)	0(0.0)	
2. As TSP units are almost completed most students begin discussion easily.	0(0.0)	6(75.0)	1(12.5)	1(12.5)	0(0.0)	
3. TSP activities and materials supplement what the students are taught in other classes.	2(25.0)	3(37.5)	2(25.0)	1(12.5)	0(0.0)	TSP goes well beyon regular classroom into meta-cognition decision making, an problem solving.
4. Having the students write and answer eight questions works to stimulate learning.	1(12.5)	5(62.5)	2(25.0)	0(0.0)	0(0.0)	
5. Displaying the students' work stimulates learning.	5(62.5)	2(25.0)	1(12.5)	0(0.0)	0(0.0)	
6. The inservice training in TSP methods was helpful for both the TSP and regular education teachers.	3(37.5)	3(37.5)	1(12.5)	1(12.5)	0(0.0)	Two SA respondents disagree with regular teachers.
7. The regular education teachers are cooperative with TSP teachers.	4(50.0)	2(25.0)	0(0.0)	2(25.0)	0(0.0)	

PART I (Continued)

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree	Comments
8. Students can write more complete questions and answers as a result of being in a TSP class.	0(0.0)	4(50.0)	4(50.0)	0(0.0)	0(0.0)	
9. Students who do good enough at the end of their first year should be taken out of the program.	2(25.0)	3(37.5)	2(25.0)	1(12.5)	0(0.0)	Two respondents agree when "good" is changed to "well".
10. Students are interested and motivated by TSP activities and materials.	6(75.0)	1(12.5)	0(0.0)	1(12.5)	0(0.0)	Strongly agree ff special interest software is your reference.
11. TSP teacher morale and interest in the program is high.	4(50.0)	2(25.0)	2(25.0)	0(0.0)	0(0.0)	
12. Students are encouraged to use multiple problem-solving techniques (for example, verbal deductive reasoning, etc.).	1(12.5)	4(50.0)	3(37.5)	0(0.0)	0(0.0)	

PART II

Read Aloud: Now let us move onto some other operational questions about the TSP program.

13. What documentation did you receive to help you in determining which students were eligible for the TSP program?

- CAT scores — 4 (50.0)
- List of eligible students — 2 (25.0)
- Tracking list in August, 1993 — 1 (12.5)
- Transfer records — 1 (12.5)

14. When did you need this documentation?

- Early June, 1993 — 3 (37.5)
- May/June, 1993 — 2 (25.0)
- Early part of Summer, 1993 — 2 (25.0)
- Mid August, 1993 — 1 (12.5)

When did you receive this documentation and from whom?

When?

- Later part of August, 1993 — 4 (50.0)
- May/June, 1993 — 2 (25.0)
- Early Summer, 1993 — 1 (12.5)
- No idea — 1 (12.5)

From Whom?

- Mary Folino — 3 (37.5)
- Charmaine Girrbach — 1 (12.5)
- Edith Letzel — 1 (12.5)
- Richard Claus — 1 (12.5)
- Evaluation Department — 1 (12.5)
- Feeder building — 1 (12.5)

15. Are all of the students at your building, who are at or below the 25th percentile (or 36th NCE; on CAT 5 Vocabulary and/or Math Computation) identified for participation in the TSP program?

Yes	6 (75.0)
No	2 (25.0)

If no, please specify the following:

The number of students (estimate) who should be in the program but who are not.

• 12.5	1 (50.0)
• 21	1 (50.0)

The number of students (estimate) who should not be in the program but who are.

• 0	1 (50.0)
• Some	1 (50.0)

What do you think caused these discrepancies?

- Two separate lists (tracking and eligibility) didn't agree. 1 (50.0)
- Not enough space to take all students. 1 (50.0)

What do you believe could be done to improve the selection process?

- Provide lists on time and make sure they agree. 1 (50.0)
- Determine eligibility on some additional basis beyond CAT test scores. 1 (50.0)

16. Have you found the TSP methods implemented?

Yes	7 (87.5)
No	1 (12.5)

If yes, in what ways?

- Guidelines followed 3 (37.5)
- Hands-on student experiences 2 (25.0)
- On-going training, follow-up discussions, and summer remediations 1 (12.5)
- Lesson plans 1 (12.5)
- One-on-one instruction 1 (12.5)

If no, why do you think the methods are not implemented?

- Lack of adequate teaching training 1 (50.0)
- Some teachers still lecture 1 (50.0)

17. Do the students each compose eight questions at the end of each unit?

Yes	3 (37.5)
No	0 (0.0)
Unsure	5 (50.0)

If yes, does it seem to work well and why?
If only in some, why there and not at all sites?

- Conditioning to follow directions 1 (33.3)
- Deepens learning when you think about it 1 (33.3)
- Saw Mrs. Williams use it. It helps with the MEAP 1 (33.3)

If no, why not?

18. Are the other regular education teachers supportive of TSP?

Yes	6 (75.0)
No	2 (25.0)

If yes, in what ways of teachers/instructional planning?

- Teaming of teachers/instructional planning 2 (25.0)
- Core teachers see it as part of the curriculum 1 (12.5)
- No suggestion of relectance 1 (12.5)
- See increased student motivation 1 (12.5)
- Teachers help to identify potential compensatory education students 1 (12.5)

If no, are they in opposition or indifferent to TSP?

- Indifferent 2 (100.0)
- Opposition (one yes respondent) 1 (12.5)

19. In what ways are you supportive of TSP?

- Fills TSP slots in scheduling 3
- Attends quickly to equipment and material supply needs 3
- Provides advanced planning to meet program needs 2
- Recognizes positive impacts of TSP (especially in reading) 2
- Allowed assistant principal to work toward meeting needs 2
- Supports methods and content 2
- Arranged for computer lab work after school 1
- Sensitive to TSP class size limits 1
- Talked positively about the TSP program 1
- Viewed it as an essential part of the core curriculum 1
- Support teachers going to teacher training 1

20. Is there regular communication between the TSP and the regular education teachers?

Yes	6 (75.0)
No	2 (25.0)

If yes, in what ways?

- Teaming 5
- School improvement processes 2
- House meetings 1
- Building meetings 1
- Homework sensitive 1
- Common preparation time 1

If no, how do you think communication can be enhanced?

- Include TSP in monthly staff meeting agenda 2

21. Is there regular communication between you and the TSP teachers?

Yes	6 (75.0)
No	2 (25.0)

If yes, in what ways?

- Daily visitations 1
- Memos 1
- "Stump the Chump" party 1
- Use of machinery and software 1
- Scheduling 1
- Individual meetings with staff as needed 1
- Staff meetings 1
- Team meetings 1
- House meetings 1
- Parent conferences 1
- No formal arrangement 1
- Tracking helps 1
- Home school aides who keep track of tutoring in the evening 1

If no, how do you think communication can be enhanced?

- Principal to make himself more available to meet with TSP 1

22. Do you have supplies for the TSP classroom needs?

Yes	7 (87.5)
No	
Unsure	1 (12.5)

If no, what are you lacking and how much more would you need to consider the classroom adequately supplied?

23. What additional supportive resources (for example, computer support personnel, additional inservice training, new software, etc.) are needed to help make the TSP program more successful?

• None	4 (50.0)
• TSP inservices	1 (12.5)
• More modeling of "socratic method"	1 (12.5)
• Additional counseling resources for at-risk students	1 (12.5)
• Move software dealing with problem solving, conflict resolution, and higher order thinking	1 (12.5)

24. Since this is our first year in the middle school configuration, have there been problems with team teaching and/or block scheduling that have caused interference with the TSP program?

Yes	3 (37.5)
No	5 (62.5)

If yes, what are the problems with team teaching and/or block scheduling that have caused interference with the TSP program?

• Cross teaming	2
• Block scheduling	2
• Not enough slots to schedule all students	1
• Third hour round robin	1

25. What do you think are the strong points of the TSP program?

• Hands-on experience with computers	4
• Instructional strategies (questioning, conflict resolution, and problem solving) fit with different learning styles	3
• Motivation for students	2
• Smaller class size	2
• Excellent hardware and software support	2
• Carry over of teacher training to regular education staff	1
• Student belief that they are productive	1
• Fewer discipline problems	1
• Less failing of at-risk students	1

26. What do you think are the weak points of the TSP program?

• Theory not advanced correctly; a need for training in advanced techniques	3
• Regular education teachers do not use the advanced techniques of TSP teachers - an articulation concern	3
• Perception that compensatory education equals special education	2
• Chapter 1 requirements for participation/identification	1
• Too short in duration (only 49 minutes/day)	1
• None	1

27. What do you think were some of the unexpected outcomes of the TSP program?

- None 2
- Reduces discipline problems 1
- Labeling of students 1
- Lack of articulation of techniques 1
- Student self-esteem 1
- Computer literate students 1
- Strong central office control of program doesn't allow for building improvement plans 1
- Zapped for not following guidelines because of scheduling problems related to middle school transition 1
- Kids flunk TSP 1

28. Is there another, but different way, to deliver better compensatory education services?

Yes	4 (50.0)
No	4 (50.0)

If yes, what are the other possible delivery systems?

- Implement core curriculum with no failures 1
- Allow school people more input for student participation 1
- Building input/autonomy to serve kids the best 1

If no, why is TSP superior to the other possible delivery systems?

- No idea 2
- Opposed to secondary pull-out 1
- Strong skill component to retrain for needed skills 1
- Interdisciplinary teaming and co-teaching (infusion) 1
- Reading progress is "OK" 1

29. Do you want the TSP program to continue? (Check one)

Continue	5 (62.5)
Expand	1 (12.5)
Terminate	2 (25.0)

Please explain.

- Continue

  - More work related to skill development 1
  - Should allow for interdisciplinary teaming and co-teaching 1

- Expand

  - Poor implementation 1
  - Poor staff 1

- Terminate

  - Building autonomy needed in better use of software and hardware 1

APPENDIX F

Table F-1

Master Question Matrix for Thinking Skills Program (TSP) Teacher, Principal/Assistant Principal, and Student Questionnaires Plus TSP Teacher Observation Instrument

MASTER QUESTION NUMBER	QUESTIONNAIRE ITEM NUMBER			OBSERVATION ITEM NUMBER
	Teacher	Principal/Assistant Principal	Student	Teacher
1.	1.	1.	1.	—
2.	2.	2.	2.	—
3.	3.	3.	3.	—
4.	4.	4.	4.	—
5.	5.	5.	5.	—
6.	6.	6.	—	—
7.	7.	7.	—	—
8.	8.	8.	—	—
9.	9.	9.	6.	—
10.	10.	10.	—	—
11.	11.	11.	—	—
12.	12.	12.	—	—
13.	—	—	7.	—
14.	—	—	8.	—
15.	13.	13.	—	—
16.	14.	14.	—	—
17.	15.	15.	—	—
18.	16. implemented	16. difficult to implement	—	—
19.	17.	17.	9.	—
20.	18.	—	—	—
21.	—	—	10.	—
22.	—	—	11.	—
23.	19.	18.	—	—
24.	20.	19.	—	—
25.	21.	20.	—	—
26.	—	21.	—	—
27.	22.	—	—	—
28.	23.	—	—	—
29.	24. computer/ supplies	22. supplies	—	—
30.	25.	—	—	—
31.	26.	24.	—	—
32.	27. strong points	25. strong points	12. good points	—
33.	28. weak points	26. weak points	13. don't like	—
34.	29.	27.	—	—
35.	30.	28.	—	—
36.	31.	23.	—	—
37.	—	29. continue	14. take another class	—
38.	—	—	15.	—
39.	—	—	16.	—
40.	—	—	—	I-1
41.	—	—	—	I-2
42.	—	—	—	I-3
43.	—	—	—	I-4
44.	—	—	—	I-5
45.	—	—	—	I-6
46.	—	—	—	I-7
47.	—	—	—	I-8
48.	—	—	—	I-9
49.	—	—	—	II-1
50.	—	—	—	II-2

APPENDIX G

Table G-1

Mean Rating on Five Point Scale (Strongly Agree = 1, Agree = 2, Unsure = 3, Disagree = 4, and Strongly Disagree = 5) of Teachers, Principals/Assistant Principals, and Students

Statement	Teacher	Principal/Asst. Principal	Student
1. The classrooms have enough computers.	2.42	1.62	1.73
2. As TSP units are almost completed most students begin discussion easily.	1.40	2.38	2.24
3. TSP activities and materials supplement what the students are taught in other classes.	2.60	2.25	2.10
4. Having the students write and answer eight questions works to stimulate learning.	2.66	2.12	2.39
5. Displaying the students' work stimulates learning.	1.73	1.50	2.28
6. The inservice training in TSP methods was helpful for both the TSP and regular education teachers.	1.86[a]	2.00	—
7. The regular education teachers are cooperative with TSP teachers.	1.85	2.00	—
8. Students can write more complete questions and answers as a result of being in a TSP class.	2.50	2.50	—
9. Students who do good enough at the end of their first year should be taken out of the program.	2.78	2.25	2.63[b]
10. Students are interested and motivated by TSP activities and materials.	1.80	1.50	—
11. TSP teacher morale and interest in the program is high.	2.06	1.75	—
12. Students are encouraged to use multiple problem-solving techniques (for example, verbal deductive reasoning, etc.).	1.53	2.25	—
13. My teacher is comfortable with the TSP materials and computers.	--	--	1.82
14. My teacher encourages me to think about a problem in different ways.	--	--	1.70

Note. N = 508. Teachers N = 15, Principals/Asst. Principals N = 8, and N = 495 Students.

[a] For compensatory education teachers this item was worded just for them specifically, i.e., "The inservice training in TSP methods was helpful."

[b] For students this item was worded in the reverse, i.e., "If I do good enough at the end of my first year, I should be allowed to stay in the program."

APPENDIX H

1993-94 TSP CLASSROOM OBSERVATION INSTRUMENT
(N = 18)

INSTRUCTIONS: Please check or fill-in as appropriate.

Enrollment:	Mean = 13	Limits of range =	6 to 16
	Mode = 13		
	Median = 13		
Attendance:	Mean = 10	Limits of range =	4 to 14
	Mode = 9		
	Median = 10		

I. CLASSROOM ENVIRONMENT

1. What is the number of computers which are in good working condition?

	Mean = 13	Limits of range =	11 to 17
	Mode = 13		
	Median = 13		

2. How many samples of student work are displayed on the walls?

	Mean = 6.6	Limits of range =	0 to 37
	Mode = 0		
	Median = 0		

3. How is attendance taken?

Informal procedure =	13 (72.2)
Formal procedure* =	5 (27.3)

* One classroom took oral calling of roll which took 5 minutes

4. Does the teacher encourage students to solve problems with "thinking strategies"?

Yes	17 (94.4)
No	1 (5.6)

5. Do the students seem motivated and/or enthusiastic toward the class activities?

Yes	17 (94.4)
No	1 (5.6)

6. Does the teacher seem motivated and/or enthusiastic toward the class activities?

Yes	17 (94.4)
No	1 (5.6)

7. Does the teacher seem to be able to motivate and/or encourage students?

Yes	17 (94.4)
No	1 (5.6)

8. Does the teacher refer to class work in the regular classroom and show how its related to TSP class work?

Yes	3 (16.7)
No	15 (83.3)

9. Is the class reaching the end of a unit?

Yes	1 (5.6)
No	17 (94.4)

If yes, are students writing a group of questions?

Yes	0 (0.0)
No	1 (100.0)

APPENDIX H

II. INSTRUCTION

1. What is the major learning activity during each ten minutes of the TSP class and what role does the teacher play in that activity?

Activity/Role	Ten-Minute Period				
	1	2	3	4	5
Question and/or lecture/presenter	13(72.2)	6(33.3)	2(11.1)	1(5.6)	2(11.1)
Machine operation/helper	0(0.0)	6(33.3)	9(50.0)	10(55.6)	9(50.0)
Summary/questioner	0(0.0)	0(0.0)	0(0.0)	0(0.0)	1(5.6)
Review/question and lecture	2(11.1)	2(11.1)	0(0.0)	0(0.0)	0(0.0)
Machine demonstration/modeling	0(0.0)	0(0.0)	2(11.1)	0(0.0)	0(0.0)
Board and/or seat work/supervisor	1(5.6)	3(16.7)	4(22.2)	6(33.3)	5(27.8)
Testing/tester	1(5.6)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
Group reading and recording/monitor	1(5.6)	1(5.6)	1(5.6)	1(5.6)	1(5.6)
TOTAL	18(100.1)*	18(100.0)	18(100.0)	18(100.1)*	18(100.1)*

*Due to rounding.

2. What type of lesson was presented? (Please provide descriptive details.)

- Book activity (Huck Finn, When a Hero Dies, Terabithia, etc.) 3 (16.7)
- Patterns 2 (11.1)
- Game Show 2 (11.1)
- Carmen San Diego 2 (11.1)
- Northwood Adventure 2 (11.1)
- Valentine card 1 (5.6)
- Letterhead 1 (5.6)
- Long division using decimals 1 (5.6)
- Multiplication/division of one or two 1 (5.6)
- Story solver 1 (5.6)
- Current events position statement 1 (5.6)
- Guessing versus prediction 1 (5.6)

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